

## Embryonic No More

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CIRM grantees at UCLA have captured the first moment when an embryonic stem cell â it of infinite possibilities â chooses a more limited fate.

A press release from UCLA says the cell population (which the researchers dubbed human embryonic mesodermal progenitors, or hEMP cells) could be therapeutically useful. The cells still have broad ability to become bone, blood, muscle or blood vessels, but â and this is an important but â have lost the embryonic stem cell's propensity to form tumors called teratomas.

Gay Crooks, a professor of pathology and laboratory medicine and senior author of the study, is quoted in the release as saying:

“The hEMP cells we isolated did not have the ability to make teratomas, so they should be a safer choice when thinking about developing therapies for use in humans.”

In addition to being useful in developing therapies, the cells are just plain cool. Scientists don't know what it is that gives an embryonic stem cell the freedom to choose its fate (a state called pluripotency). Crooks puts it like this:

“We want to know what it is that switches on and off to make a pluripotent cell no longer be pluripotent. In this study, we found a cell population that can help us understand these processes, as it is such a close relative to embryonic stem cells, but has lost the ability to be pluripotent.”

What they learn could help colleagues who are looking for more efficient ways of reprogramming adult cells to become pluripotent iPS cells.

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